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AMSAT NEWS SERVICE
ANS-116.02

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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SB SAT @ AMSAT $ANS-116.02
ANS-116.02 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 116.02
>From AMSAT HQ KENSINGTON, MD.
April 26, 2015
To All RADIO AMATEURS
BID: $ANS-116.02

AMSAT-NA Opportunity for Rideshare to Geostationary Orbit

AMSAT is excited to announce that we have accepted an opportunity to participate in a potential rideshare as a hosted payload on a geostationary satellite planned for launch in 2017. An amateur radio payload, operating in the Amateur Satellite Service, will fly on a spacecraft which Millennium Space Systems (MSS) of El Segundo, CA is contracted to design, launch, and operate for the US government based on their Aquila M8 Series Satellite Structure.

A meeting to discuss this potential rideshare took place on April 13 at Millennium Space Systems that included Dr. Bob McGwier, N4HY; Franklin Antonio, N6NKF, co-founder of Qualcomm; Jerry Buxton, N0JY, AMSAT Vice President of Engineering and member of the board for AMSAT-NA; Dr. Tom Clark, K3IO, Director and President Emeritus of AMSAT-NA; Phil Karn,KA9Q; and Michelle Thompson, W5NYV.

Hosting the meeting for MSS were Stan Dubyn as founder and chairman of MSS, Vince Deno as president of MSS, Jeff Ward, K8KA, of MSS as VP

for Product Development, formerly with SSTL and University of Surrey Space Center, and Ryan Lawrence of MSS as Project Manager on the spacecraft mission. Attending by telephone were Dr. Jonathan Black, Associate Research Director of Hume Center for Aerospace Systems and Associate Professor of Aerospace and Ocean Engineering and Dr. Michael Parker, KT7D, founder of RINCON Research Corp.

Following the meeting, Dr. Bob McGwier, N4HY, Director of Research at the Hume Center for National Security and Technology of Virginia Tech, and former director and former VP Engineering of AMSAT, described this as an opportunity to go forward with "AMSAT-Eagle" which, in the 2006-2008 timeframe, evolved into a microwave payload to be flown to geostationary orbit as a hosted payload. It would have provided digital communications to small terminals on the ground and a linear bent pipe transponder had it flown. This failed to go forward in part due to lack of an affordable flight opportunity.

McGwier outlined the next steps toward developing this mission:

1) To organize an effort at Virginia Tech to make a firm proposal to MSS and its US government sponsor, and organize an effort to raise sufficient funds to pay for development of the mission.

2) Enable Dr. Jonathan Black to lead the construction project at Virginia Tech in the Space(a)VT Center. Sonya Rowe, KK4NLO, Project Manager at the Hume Center will be the project manager.

3) Work for development of a low-cost microwave ground station for amateur radio still needs to be determined.

4) Dr. Michael Parker, KT7D, will solicit the cooperation of the Rincon Research Corp. for development of the software radio technology for this payload.

The AMSAT Board of Directors has accepted the invitation to participate in this potential rideshare payload opportunity. AMSAT expects to be involved in the development of the ground station and the payload RF development, and will serve as the amateur radio (hosted) payload operator once the satellite has been launched.

McGwier summarized, "The launch is currently scheduled for 2017 and the payload must be delivered for testing and integration by Spring of 2016. It is an ambitious schedule and all involved will have to gain and maintain a serious level of commitment to that which they agree to undertake." AMSAT President, Barry Baines, WD4ASW, said, "The AMSAT leadership is excited to fly a Phase-IV geostationary amateur satellite payload. This is an evolving development as we collaborate with the VT Hume Center with a project that provides technical challenges to create a new amateur radio capability in space that will provide a variety of benefits not only for amateurs but also for emergency communications and STEM educational outreach."

The transponder is expected to support a wide range of voice, digital, and experimental advanced communications technologies. A decision is expected soon specifying the microwave uplink and downlink bands.

Additional information on the Aquila M8 Series Satellite can be viewed on-line:
http://www.millennium-space.com/
http://www.millennium-space.com/platforms#aquila

AMSAT has posted a photo of the GEO opportunity team with the Millennium Aquila satellite at: http://www.amsat.org.

[ANS thanks Bob McGwier, N4HY and AMSAT-NA for the above information]

Nayif-1 CubeSat mission will have FUNcube transponder

AMSAT-UK and AMSAT-NL are delighted to announce that a FUNcube communications package has been selected as a major payload for the Nayif-1 CubeSat mission.

This mission is intended to provide Emirati students with a tool to design and test systems in space. It is being developed by the Emirates Institution for Advanced Science and Technology (EIAST) in partnership with American University of Sharjah (AUS).

It is expected that this payload will provide a large amount of valuable environmental data from space together with a new, enhanced, UHF to VHF linear transponder.

The AMSAT team will be working closely with the Emirati students, in collaboration with support partner, ISIS - Innovative Solutions In Space B.V. from the Netherlands, to develop this new system in time for the launch which is scheduled to take place towards the end of 2015.

This exciting news was announced on April 25, 2015 during the Dutch "Interessedag Amateursatellieten" or "Satellite Interest Day" event in Apeldoorn.

More information, with details of frequencies and planned operating schedules, will be made available as soon as possible.

[ANS thanks AMSAT-UK for the above information]

Central States VHF Society Annual Conference, July 23 - 26

The Central States VHF Society Annual Conference for 2015 is being held in the Denver Colorado Metro area between Thursday July 23rd and Sunday July 26th. The local sponsor this year is Rocky Mountain Ham Radio. The convention site is the Denver Marriott Westminster; the venue is available for booking at the Society special conference rate of $109 per night. Please plan on booking your vacation around the conference as the special room rate is available from Monday July 20th through Wednesday July 29th.

The conference will feature the traditional activities, Banquet, Luncheons and hospitality suites, technical programs, noise figure measurement, antenna range, Rover vehicle show and tell. Speaker for the Saturday evening banquet is Rick Roderick K5UR First Vice President of ARRL and an avid VHFer. There are a wide variety of activities available along the Front Range of Colorado and there will be an offering of a choice of side trips designed to entertain the entire family. Operating opportunities under consideration include operating from the Rocky Mountain Ham Radio remote base station in Pueblo, microwave operating from local mountain tops and the chance to score a microwave VUCC in a weekend! Just bring your own equipment! There will be introductory programs geared to newcomers to

weak signal operation on the VHF+ bands that will be promoted locally and designed to encourage younger hams to get involved in DX'ing and contesting.

Conference registration, as well as a link to the conference venue for bookings, is now available at http://2015.csvhfs.org/ Please visit the site if you need any other additional information

[ANS thanks Doug K2AD for the above information]

Current and Upcoming Satellite Operations

The following information is from the AMSAT "Upcoming Satellite Operations" page that is maintained by Paul Stoetzer N8HM.
The following information was last updated April 25, 2015.
The most current information can be viewed anytime by visiting http://www.amsat.org/?page_id=3921

Maritime Mobile - Captain Yuri Bodrov, UT1FG/MM, is heading north from the Panama Canal through the Caribbean Sea and Atlantic Ocean en route to the Port of Sept-Îles in Quebec aboard the M/V Greenwing. He is active on all satellites as well as six meters and HF from open water grids. Track his progress on MarineTraffic. Note that Yuri operates half duplex, so do not attempt to call while he is talking.

Arkansas (EM23/EM33) - Dave Swanson, KG5CCI, will be active on two passes of FO-29 (2038Z and 2222Z) and one pass of AO-7 (2059Z) from the EM22/EM23 line just north of Texarkana, AR on April 25, 2015.

Cuba (FL11) - Pavel, CO7WT, is active on SO-50 from FL11 in eastern Cuba, mostly on evening passes during the week, and all day on weekends.

Norway (KQ50) - Erling, LA4FPA, will be active from Vardø, Norway (KQ50ni) with an FT-847 and an Arrow Antenna April 25 - April 30, 2015.

Florida / Dry Tortugas Islands (EL84) - Mike, WA0SPG, will be active on FO-29 and SO-50 as WA0SPG/4 from the Dry Tortugas (EL84) May 4 - May 6, 2015. QSL via home call. He will also be active on HF. See the March 2, 2015 edition of the OPDX Bulletin for more details (Thanks to John, K8YSE via the AMSAT-BB for this information).

Scotland (IO76) - The Camb Hams will be active on all satellites from the Isle of Mull as GS3PYE/P May 15 - May 21, 2015. For more information, see http://dx.camb-hams.com/

Cayman Islands (EK99) - Bill, NZ5N, will be active from the Cayman Islands as ZF2EM on SO-50 May 20 - May 25, 2015. This is primarily an EME DXpedition and they will only be on SO-50 passes when the moon is not up.

Guernsey (IN89) - Peter Goodhall, 2E0SQL, will be active from Guernsey (IN89) as 2U0SQL/P July 22 - July 28, 2015. He will likely be using an FT-817 as the uplink transmitter and a FUNcube Dongle with a laptop as the downlink receiver with an Arrow Antenna. Operation may be sporadic and/or by sked only as the primary purpose of the trip is for the IOTA contest.

Please submit any additions or corrections to n8hm at arrl.net

Satellite Schedule Notes

AO-73 (FUNcube-1) - Currently in full time transponder mode until the evening of April 26, 2015 (UK time).

AO-7 - Currently operating in Mode B while in sunlight. As of April 5, 2015, the satellite appears to be losing power upon entering eclipse several times per day and, by design, resets into Mode B when it powers up. Since it is entering eclipse several times per day, the 24 hour timer that switches the satellite into Mode A is reset and never has the opportunity to switch the satellite to Mode A. Note that in the past, the satellite has unexpectedly switched modes. This has often been observed to coincide with the presence of extremely strong signals in the passband. Pleae limit your uplink power to no more than 100 watts ERP.

[ANS thanks AMSAT-NA for the above information]

AMSAT at the Dayton Hamvention - Third call for volunteers

The Dayton Hamvention is less than four weeks away!

Last year, we had 52 people assist with the AMSAT booth at Dayton. We've had a good response so far to our call for volunteers, but we could really use another 10-15 people.

The interaction with AMSAT members, satellite operators, designers, and builders makes the whole experience a lot of fun. Meet or renew acquaintances, exchange operating tips, and find out what antennas, software and equipment other AMSAT members use. We currently expect all of the AMSAT senior officers and 5 of the 7 board members to be there too.

The 2015 Hamvention is May 15-17. Would you consider helping AMSAT at Dayton this year?

If you're an experienced operator, great! We can use you and your experience.

If you've never operated a satellite before, but want to learn more, that's OK. We can use your help too.

Whether you're available for only a couple of hours or if you can spend the entire weekend with us, your help would be greatly appreciated.

Please send an e-mail to Steve, n9ip(a)amsat.org if you can help. Thank you!

[ANS thanks Steve, N9IP, Dayton Team Leader, for the above information]

Design The Next AMSAT Satellite! - Submission Deadline May 30

At the 2014 AMSAT Space Symposium AMSAT Vice President - Engineering

Jerry Buxton announced the plan for the next generation of AMSAT satellites. "The door is open for everyone, to submit their ideas. AMSAT Engineering has a long term strategy and this is the first step."

The Engineering long term strategy includes the following goals

* Advancement of amateur radio satellite technical and communications skills
* Enhance international goodwill
* Grow and sustain a skilled pool of amateur radio satellite engineers
* Establish and maintain partnerships with educational institutions
* Develop a means to use hardware common to all opportunities

With respect to the last goal Jerry said "Within the bounds of the type of satellite it takes to achieve any of the various orbit opportunities, let's consider in those plans the possibility of developing a platform that can suit any and all orbits. Perhaps a modular CubeSat, using a common bus as we did in Fox-1, which gives great flexibility in building and flying different sizes and configurations of CubeSats with simple common-design hardware changes."

Submissions should be thorough and contain the following information. The purpose of the proposal is not just in suggesting an idea; being an all-volunteer team AMSAT needs your help in carrying out the idea.

Design
Implementation - CubeSat platform
Estimated timeline
Cost - volunteer resources, commercial (COTS) units
Launch - how does it get to orbit
Strategy - how it fits into AMSAT's Engineering long term strategy
As mentioned above the idea should be based on the CubeSat platform. This is the standard through which we will look for launches in the foreseeable future.

In considering your proposal, Jerry encourages you to contact him, (n0jy(a)amsat.org using Subject: Design the Next AMSAT Satelleite), for more details on the criteria.

A guidebook to the criteria is now available for download at

http://tinyurl.com/ANS032-SatelliteGuide.

In particular, if you plan to include a university as a partner to provide experiments or other support and you are not representing that university, please contact Jerry for assistance in working with our existing partners or establishing a new partnership.

"Being amateur radio operators, it is easy for us to fall into a particular trap because of our history of communicating with other amateurs throughout the world" says Jerry. "Specifically, most people who are not already involved in the world of satellite technology are unaware of or simply overlook the provisions of the current ITAR and soon to be EAR export rules particularly with regard to deemed exports which requires governmental permission to discuss satellite projects with foreign nationals."

While all amateurs are invited to submit ideas, U.S. amateurs must take particular care of they choose to become involved in a collaboration which includes individuals from other countries. It is permissible to receive ideas and proposals from outside the U.S., but

it is not permitted for U.S. Persons to export or share design ideas with other countries unless they have taken the proper steps to insure compliance with ITAR and deemed export rules.

Additionally, those wishing to work on proposals should use care in presenting themselves in their contacts. While the goal is for AMSAT to build and launch the satellite, it is not an AMSAT project until it is accepted by the AMSAT Board of Directors. It is acceptable to represent yourself as members of a project team that plans to submit a proposal to AMSAT for a future satellite project, as the AMSAT name is well known.

"It is not our intention that ideas be submitted to AMSAT-NA which would be more appropriately handled by an AMSAT organization in a country where AMSAT is established. AMSAT-NA is seeking ideas from amateurs in North America and will certainly consider ideas from amateurs in countries which do not have an established AMSAT organization or relationships with an existing AMSAT organization."

The deadline for submissions is May 30, 2015. After the submission date the ideas will be screened for completeness and then reviewed by a board consisting of the AMSAT Engineering Team, AMSAT Senior Officer and Board of Directors representatives, and aerospace industry members. The review board may modify or consolidate ideas and will consider which meet the criteria to become a project based on feasibility, cost, and the ability to bring value to the amateur satellite community. The review process is expected to be completed in September 2015.

For those ideas selected to become a project which satisfy the requirements for an ELaNa launch, the idea authors will be asked to work with the AMSAT Engineering Team on an ELaNa proposal.

The Engineering Team will then work on the details of execution for the selected project(s) and present a proposal to the AMSAT Board of Directors in October 2015 for final approval to begin work. Once approved, any ELaNa proposals will be submitted in November 2015 and the project(s) will move forward.

Now is the time for YOU to begin working on the next AMSAT satellite!

[ANS thanks AMSAT Engineering for the above information]

ARISS News

+ A Successful contact was made between East Coast Chapter Tuskegee Airmen, Inc., Youth In Aviation Program (ECCTAI YIAP) and Oxon Hill High School, Oxon Hill, Maryland, USA and Astronaut Samantha Cristoforetti IZØUDF using Callsign NAISS. The contact began 2015-04-24 16:41:27 UTC and lasted about nine and a half minutes. Contact was direct via K6DUE. ARISS Mentor was KA3HDO.

Contact Audience was about 180-190
VIPs included two documented original Tuskegee Airmen and one WWII Navy Veteran. Over a dozen from the East Coast Chapter Tuskegee Airmen organization attended and wore Red Jackets commemorating the Tuskegee Airmen.

The school live-streamed the event on their school newspaper website, and recorded 100+ views the day of the event. Indirect

participants is confirmed and expected to increase when more are confirmed. The contact was streamed into all the Price Georges County, Maryland Schools.

News organizations: WUSA9 (TV), WRC News4 (TV), Andrews Gazette(Newspaper), CTV Prince George's County News (TV-Local Cable), Prince George's County Public Schools Communication Office.
12 questions were asked and 11 were answered. The last question was barely discernable in the static.

Upcoming ARISS Contact Schedule

Double School Contact
Sol Plaatje Primary School, Mahikeng, South Africa. and
South Africa, and Scuola Secondaria di I Grado, Caprino Bergamasco, Italy
The contact will be a telebridge via IK1SLD
The ISS callsign is presently scheduled to be IRØISS
The scheduled astronaut is Samantha Cristoforetti IZØUDF
Contact is a go for: Sat 2015-05-02 14:34:27 UTC

School Information

Scuola Secondaria di I Grado:

Caprino Bergamasco and its school are located atop of hills in between Bergamo and Lecco region. The school facility, recently built, serve the small community of 3000 people, it has pupils from age 3 to 14. Students from 11 to 14 have been involved in the ARISS activity, belonging to classes 1E, 2E, 2F and 3E.

Sol Plaatje Primary School:

It is a co-ed school having Gr.0-Gr.7. There are 1216 learners in the school, planet Earth and beyond is part of the curriculum and as a school they try to develop the learner's knowledge about space bodies and inculcate a love for the subject within the learners.

Sol Plaatje Primary School participated on at the 2014 SAASTA Astronomy Quiz with a team - made by Ebenitha Esterhuizen, Kgotlholela Seagisa, Oratile Selatlhedi and Orefile Morule, prepared by the teacher Ms Micalla Lucas - and resulted the best among more than 1.700 schools.

Upcoming Russian Contacts

Ryazan, Russia, direct via TBD
Contact is a go for Thu 2015-05-07 08:30 UTC
The ISS callsign is presently scheduled to be RSØISS
The scheduled astronaut is Mikhail Korniyenko RN3BF

Kursk, Russia, WWII veterans, direct via TBD
Contact is a go for Sat 2015-05-09 08:20 UTC
The ISS callsign is presently scheduled to be RSØISS
The scheduled astronaut is Gennady Padalka RN3DT

>From 2015-05-11 to 2015-06-14, there will be no US Operational Segment (USOS) hams on board ISS. So any schools contacts during this period will be conducted by the ARISS Russia team.

[ANS thanks ARISS, Charlie AJ9N and David AA4KN for the above information]

ARISS passes along our condolences to the families of recent silent

keys:
Max IW1CNF who helped with many of the ARISS Italian telebridge
contacts.
Clive G3CWV who was very active in AMSAT

[ANS thanks ARISS, Charlie AJ9N information]

Satellite Shorts From All Over

+ Videos of the presentations from The 2015 CubeSat Workshop held
  April 1 at the University of New South Wales (UNSW) are now
  available on YouTube.
  http://tinyurl.com/ANS116-CubesatVideos

  The presentation schedule and slide PDF's are at
  http://www.acser.unsw.edu.au/events/cubesat2015.html

  [ANS thanks AMSAT-UK for the above information]

+ March/April AMSAT Journal - in the Mail
  Members began receiving their AMSAT Journals in the mail this
  week. Keep an eye out for yours.
  Membership in AMSAT is required to receive the Journal.
  Annual membership is $44.00,
  Join today! http://tinyurl.com/ANS116-JoinAMSAT

/EX

In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining
donors to AMSAT Project Funds, will be eligible to receive addi-
tional benefits. Application forms are available from the AMSAT
Office.

Primary and secondary school students are eligible for membership
at one-half the standard yearly rate. Post-secondary school students
enrolled in at least half time status shall be eligible for the stu-
dent rate for a maximum of 6 post-secondary years in this status.
Contact Martha at the AMSAT Office for additional student membership
information.

73,
This week's ANS Editor,
EMike McCardel, KC8YLD
kc8yld at amsat dot org